Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/923,221	ZHAO ET AL.
	Examiner	Art Unit	
	Nicholas A. Martin	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _06 August 2001_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-32_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-32_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _06 August 2001_ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _8/6/2001_.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

1.   Claims 1-32 are presented for examination.

Drawings

2.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5)

because they include the following reference character(s) not mentioned in the

description: reference number 300, Figure 3 and reference number 700, Figure 7.

3.   The drawings are objected to because reference numbers 302 and 304 in Figure

3 are not labeled and it is not clear as to which channel, i.e.: 1-n, each category is

referring to.

4.   The drawings are objected to because reference numbers 702, 704 and 706 in

Figure 7 are not labeled accordingly and it is not clear as to which VC number each

category is referring to, i.e.: VC#1-VC#64k.

5.   The drawings are objected to under 37 CFR 1.83(a) because they fail to show

the information listed on page 11, line 19 and subsequently afterwards as "(not shown)"

as described in the specification. Any structural detail that is essential for a proper

understanding of the disclosed invention should be shown in the drawing. MPEP §

608.02(d).

        Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in

reply to the Office action to avoid abandonment of the application. Any amended

replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing figure

is to be canceled, the appropriate figure must be removed from the replacement sheet,

and where necessary, the remaining figures must be renumbered and appropriate

changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. The replacement sheet(s) should be labeled "Replacement

Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of

the drawing figures. If the changes are not accepted by the examiner, the applicant will

be notified and informed of any required corrective action in the next Office action. The

objection to the drawings will not be held in abeyance.

Specification

6.   The disclosure is objected to because of the following:

7.   On page 10, line 27, it states, "...broad band". This is incorrect as it should be

broadband.

8.   On page 18, lines 8-9; it states, "...as indicated at 510-514." This is incorrect

because in Figure 5A there are no reference numbers for 511 or 513, only 510, 512 and

514.

9.   On page 18, lines 8-9; it states, "...as indicated at 510-514." This is incorrect

because in Figure 5A there are no reference numbers for 511 or 513, only 510, 512 and

514.

10.   On page 22, line 28 and page 23, line 1; it states, "...(904-914)." This is incorrect

because in Figure 9 there are no reference numbers for 905, 907, 909, 911 or 913, only

904, 906, 908, 910, 912 and 914.

11..   On page 23, line 2, it states, "...404-414 of Figure 4." This is incorrect because

in Figure 4 there are no reference numbers for 403, 405, 407, 409, 411 or 413, only

404, 406, 408, 410, 412 and 414.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12.   Claims 1, 16, 17 and 32 are rejected under 35 U.S.C. 102(e) as being anticipated

by Welin, Andrew M. (hereinafter Welin), US 2002/0031086.

13.   As per claim 1, Welin teaches a network device comprising:

a cell processing unite configured to receive incoming data cells from a network

for a plurality of communication channels (Paragraphs [0061], [0066] and [0067];

a timer configured to provide a timer value to said cell processing unit

(Paragraphs [0250] and [0251]); and

a memory coupled to said cell processing unit and configured to store one or more policy parameters and rollover data for each of the communication channels, wherein the rollover data comprises an indication of a rollover relationship between the timer value and one of the policing parameters for each of the communication channels (Paragraphs [0058], [0086], [0092], [0122], [0154], [0518-0520], [0547-548] and [0550];

wherein for each received incoming data cell, said cell processing unit is configured to assign an arrival from the timer value and compare the received incoming data cell's arrival time to the one or more policing parameters for the received incoming data cell's communication channel to determine if the received incoming data cell is conforming or non-conforming to a rate for the communication channel, wherein said cell processing unit is configured to access the rollover data for the received incoming data cell's communication channel to account for the rollover relationship when comparing the arrival time to the one or more policing parameters (Paragraphs [0058], [0158], [0231], [0253], [0264], [0518-0520], [0547-548], [0550], [0555] and [0557]).

14.   As per claim 16, Welin teaches the network device as recited in claim 1, wherein the network device is configured as an Asynchronous Transfer Mode (ATM) switch for the plurality of communication channels, wherein each communication channel is an ATM virtual channel (Paragraph 0313).

15.   As per claim 17, Welin teaches a method comprising:

receiving incoming data cells from a network fro a plurality of communication channels, wherein each received incoming data cell has an arrival time from a timer value (Paragraphs [0061], [0066], [0067], [0250] and [0251]);

for each received incoming data cell, accessing one or more policing parameters

and rollover data for the communication channel on which the incoming data cell was

received, wherein the rollover data comprises an indication of a rollover relationship

between the timer value and one of the policing parameters for each of the

communication channels (Paragraphs [0058], [0086], [0092], [0122], [0154], [0518-

0520], [0547-548] and [0550];

for each received incoming data cell, comparing the received incoming data cell's

arrival time to the one or more policing parameters for the received incoming data cell's

communication channel to determine if the received incoming data cell is conforming or

non-conforming to a rate for the communication channel, wherein said comparing

comprises using the rollover data for the received incoming data cell's communication

channel to account for the rollover relationship between the arrival time and the one or

more policing parameters (Paragraphs [0058], [0158], [0231], [0253], [0264], [0518-

0520], [0547-548], [0550], [0555] and [0557]).

16.   As per claim 32, Welin teaches the method as recited in claim 1, wherein each

communication channel is an Asynchronous Transfer Mode (ATM) virtual channel

(Paragraph 0313).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set
forth in section 102 of this title, if the differences between the subject matter sought to be patented and
the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

17.   Claims 2-4, 6-15 and 18-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Welin, Andrew M. (hereinafter Welin), US 2002/0031086, in view of Fahmi et al. (hereinafter Fahmi), US 5,668,797.

18.   As per claim 2, Welin does not explicitly teach the network device as recited in claim 1, wherein said timer is configured to increment the timer value at a predetermined frequency, wherein the timer value rolls over to zero and continues incrementing upon reaching a maximum timer value, and wherein the one or more policing parameters comprise a theoretical arrival time, wherein said theoretical arrival time rolls over upon being incremented past a maximum value and wherein the rollover data is configured to indicate for each communication channel whether or not the timer value and theoretical arrival time are in the same rollover phase.

19.   Fahmi teaches a network, wherein said timer is configured to increment the timer value at a predetermined frequency, wherein the timer value rolls over to zero and continues incrementing upon reaching a maximum timer value, and wherein the one or more policing parameters comprise a theoretical arrival time, wherein said theoretical arrival time rolls over upon being incremented past a maximum value and wherein the rollover data is configured to indicate for each communication channel whether or not the timer value and theoretical arrival time are in the same rollover phase (Col. 2, lines 62-67; Col. 3, lines 27-32, 62-65; Col. 4, lines 1-5, 19-29, 53-58).

20.   It would have been obvious to one of ordinary skill in this art at the time of invention was made to combine the teaching of Fahmi and Welin because they both

deal with traffic scheduling of transferring data over a network using timers and counters schedule arrival of media. Furthermore, the teaching of Fahmi to allow wherein said timer is configured to increment the timer value at a predetermined frequency, wherein the timer value rolls over to zero and continues incrementing upon reaching a maximum timer value, and wherein the one or more policing parameters comprise a theoretical arrival time, wherein said theoretical arrival time rolls over upon being incremented past a maximum value and wherein the rollover data is configured to indicate for each communication channel whether or not the timer value and theoretical arrival time are in the same rollover phase would improve the functionality of Welin's system by improving the means of synchronization between data sources for packet transferring.

21.   As per claim 3, Welin teaches the network device as recited in claim 2, further comprising:

a timer rollover phase indicator configured to indicate a current rollover phase of the timer value (Paragraph [0528]).

22.   Welin does not explicitly teach the network device further comprising:

wherein said cell processing unit is configured to access said memory to perform an update of the rollover data for each communication channel at least once per rollover phase of the timer value.

23.   Fahmi teaches a network device further comprising:

wherein said cell processing unit is configured to access said memory to perform an update of the rollover data for each communication channel at least once per rollover phase of the timer value (Col 3, lines 62-67; Col. 4, lines 1-9, 20-29).

24.   It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Fahmi and Welin because they both deal with a timer/counter to update rollover data for each communication channel during the rollover phase. Furthermore, the teaching of Fahmi to allow wherein said cell processing unit is configured to access said memory to perform an update of the rollover data for each communication channel at least once per rollover phase of the timer value would improve the updating procedure of Welin's system's timer by utilizing memory to perform updates on the timer more frequently to ensure correct rollover data.

25.   As per claim 4, Welin does not explicitly teach the network device as recited in claim 3, wherein for each communication channel the rollover data is further configured to indicate the rollover phase of the timer value the last time the rollover data was updated, wherein to perform the update of the rollover data for each communication channel the cell processing unit is configured to:

compare the current rollover phase of the timer value to the rollover phase of the timer the last time the rollover data was updated;

if the current rollover phase of the timer value is different than the rollover phase of the timer the last time the rollover data was updated, the cell processing unit is configured to:

update the rollover data to indicate if the theoretical arrival time is ahead,

behind, or in the same rollover phase as the timer value; and

update the rollover data to indicate the current timer value rollover phase

as the rollover phase of the timer value the last time the rollover data was updated.

26.   Fahmi teaches a network device configured to:

compare the current rollover phase of the timer value to the rollover phase of the

timer the last time the rollover data was updated (Col. 4, lines 35-41);

if the current rollover phase of the timer value is different than the rollover phase

of the timer the last time the rollover data was updated, the cell processing unit is

configured to:

update the rollover data to indicate if the theoretical arrival time is ahead,

behind, or in the same rollover phase as the timer value (Col. 3, lines 1-12); and

update the rollover data to indicate the current timer value rollover phase as

the rollover phase of the timer value the last time the rollover data was updated (Col. 4,

lines 48-53).

27.   It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the teaching of Fahmi and Welin because they both

deal with updating rollover data for communication channels transmitting information.

Furthermore, the teaching of Fahmi to allow compare the current rollover phase of the

timer value to the rollover phase of the timer the last time the rollover data was updated;

if the current rollover phase of the timer value is different than the rollover phase of the

timer the last time the rollover data was updated, the cell processing unit is configured

to: update the rollover data to indicate if the theoretical arrival time is ahead, behind, or in the same rollover phase as the timer value; and update the rollover data to indicate the current timer value rollover phase as the rollover phase of the timer value the last time the rollover data was updated would improve the updating procedure for rollover in Welin's system by allowing the rollover data to indicate its current position pertaining to the theoretical timer value and rollover phase in order to begin a new rollover phase pertaining to packet transmission.

28.   As per claim 6, Welin teaches the network device as recited in claim 3, wherein said memory is further configured to store operations and maintenance data indicating connection availability information for each communication channel (Paragraphs [0318] and [0620], the network device further comprising:

wherein said cell processing unit is configured to perform a scanning function to scan the operations and maintenance data for the plurality of communication channels at least once per rollover phase of the timer value (Paragraphs [0262], [0606] and [0630]); and

wherein said cell processing unit is configured to access said memory to perform the update of the rollover data for each communication channel as part of said scanning function (Paragraphs [0262] and [0620]).

29.   As per claim 7, Welin teaches a network device as recited in claim 6, wherein

said cell processing unit is configured to perform said scanning function more frequently

than once per roll over phase of the timer value, the network device further comprising:

a timer rollover indicator configured to be set when the timer value rolls over

(Paragraph [0528]);

wherein said cell processing unit is configured to check the timer rollover

indicator upon initiating the scanning function, wherein if the timer rollover indicator is

set, the cell processing unit is configured to perform the update of the rollover data as

the operations and maintenance data for each communication channel is scanned, and

wherein if the timer rollover indicator is not set, the cell processing unit is configured to

perform the scanning function without performing the update of the rollover data

(Paragraphs [0262], [0528], [0620], [0630] and [0653]).

wherein the timer rollover indicator is cleared completing a scan in which the

update of the rollover data is performed for each communication channel (Paragraphs

[0341], [0262], [0417] and [0630].

30.   As per claim 8, Welin does not explicitly teach the network device as recited in

claim 7, wherein for each communication channel the rollover data is further configured

to indicate the rollover phase of the timer value the last time the rollover data was

updated, wherein to perform the update of the rollover data for each communication

channel the cell processing unit is configured to:

compare the current rollover phase of the timer value to the rollover phase of the

timer the last time the rollover data was updated;

if the current rollover phase of the timer value is different that the rollover phase

of the timer the last time the rollover data was updated, the cell processing unit is

configured to:

update the rollover data to indicate if the theoretical arrival time is ahead,

behind, or in the same rollover phase as the timer value; and

update the rollover data to indicate that the rollover phase of the timer value the

last time the rollover data was updated is the current timer value rollover phase.

31.   Fahmi teaches a network device configured to:

compare the current rollover phase of the timer value to the rollover phase of the

timer the last time the rollover data was updated ((Col. 4, lines 35-41);

if the current rollover phase of the timer value is different that the rollover phase

of the timer the last time the rollover data was updated, the cell processing unit is

configured to:

update the rollover data to indicate if the theoretical arrival time is ahead,

behind, or in the same rollover phase as the timer value (Col. 3, lines 1-12); and

update the rollover data to indicate that the rollover phase of the timer

value the last time the rollover data was updated is the current timer value rollover

phase (Col. 4, lines 48-53).

32.   It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the teaching of Fahmi and Welin because they both

deal with updating rollover data for communication channels transmitting information.

Furthermore, the teaching of Fahmi to allow compare the current rollover phase of the

timer value to the rollover phase of the timer the last time the rollover data was updated;

if the current rollover phase of the timer value is different than the rollover phase of the

timer the last time the rollover data was updated, the cell processing unit is configured

to update the rollover data to indicate if the theoretical arrival time is ahead, behind, or

in the same rollover phase as the timer value; and update the rollover data to indicate

the rollover phase of the timer value the last time the rollover data was updated is the

current timer value rollover over phase would improve the updating procedure for

rollover data in Welin's system by allowing the rollover data to indicate its current

position pertaining to the theoretical timer value and rollover phase in order to begin a

new rollover phase pertaining to packet transmission.

33.   As per claim 9, Welin teaches the network device of claim 2, further comprising:

        a timer rollover phase indicator configured to indicate a current rollover phase of

the timer value (Paragraph [0528]);

34.   Welin does not explicitly teach the network device of claim 2, further comprising:

        wherein for each communication channel the rollover data is further configured to

indicate the rollover phase of the timer value the last time the rollover data was updated;

        wherein for each received incoming data cell, before comparing the arrival time

to the theoretical arrival time for the received incoming data cell's communication

channel said cell processing unit is configured to compare the current rollover phase of

the timer value to the rollover phase of the timer the last time the rollover data was

updated, and if the current rollover phase of the timer value is different than the rollover

phase of the timer the last time the rollover data was updated, update the rollover data

in said memory for the received incoming data cell's communication channel.

35.   Fahmi teaches network device comprising:

wherein for each communication channel the rollover data is further configured to

indicate the rollover phase of the timer value the last time the rollover data was updated

(Col. 4, lines 45-51);

wherein for each received incoming data cell, before comparing the arrival time to

the theoretical arrival time for the received incoming data cell's communication channel

said cell processing unit is configured to compare the current rollover phase of the timer

value to the rollover phase of the timer the last time the rollover data was updated, and if

the current rollover phase of the timer value is different than the rollover phase of the

timer the last time the rollover data was updated, update the rollover data in said memory

for the received incoming data cell's communication channel (Col. 10-23).

36.   It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the teaching of Fahmi and Welin because they both

deal with indicating the timer/counter rollover data pertaining to the current rollover

phase. Furthermore, the teaching of Fahmi to allow wherein for each communication

channel the rollover data is further configured to indicate the rollover phase of the timer

value the last time the rollover data was updated wherein for each received incoming

data cell, before comparing the arrival time to the theoretical arrival time for the received

incoming data cell's communication channel said cell processing unit is configured to

compare the current rollover phase of the timer value to the rollover phase of the timer

the last time the rollover data was updated, and if the current rollover phase of the timer

value is different than the rollover phase of the timer the last time the rollover data was

updated, update the rollover data in said memory for the received incoming data cell's

communication channel would improve the functionality of updating the rollover data of

Welin's system through analysis of previous rollover data in the memory in order to

speed up the rollover process.

37.   As per claim 10, Welin does not explicitly teach the network device as recited in

claim 9, wherein said cell processing unit is further configured to perform an update

function at least once per rollover phase of the timer value, wherein the rollover data for

each communication channel is updated by the update function if the current rollover

phase of the timer value is different than the rollover phase of the timer the last time the

rollover data was updated.

38.   Fahmi teaches a network device, wherein said cell processing unit is further

configured to perform an update function at least once per rollover phase of the timer

value, wherein the rollover data for each communication channel is updated by the

update function if the current rollover phase of the timer value is different than the

rollover phase of the timer the last time the rollover data was updated (Col. 4, lines 1-9).

39.   It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the teaching of Fahmi and Welin because they both

deal with updating the timer/counter rollover data for communication of information.

Furthermore, the teach of Fahmi to allow wherein said cell processing unit is further

configured to perform an update function at least once per rollover phase of the timer

value, wherein the rollover data for each communication channel is updated by the

update function if the current rollover phase of the timer value is different than the

rollover phase of the timer the last time the rollover data was updated would improve

functionality and reliability of updating the rollover data of Welin's system by allowing

the rollover data to update more often and on at least once per rollover phase.

40.   As per claim 11, Welin does not explicitly teach the network device as recited in

claim 10, wherein for each communication channel, the rollover data comprises:

        a bit R, wherein R is set to indicate that the theoretical arrival time value for the

communication channel is ahead of the timer value in rollover phase;

        a bit B, wherein B is set to indicate that the theoretical arrival time value for the

communication channel is behind the timer value in rollover phase, wherein R and B are

both cleared to indicate that the theoretical arrival time value for the communication

channel and the timer value are in the same rollover phase; and

        a bit V, wherein V indicates the rollover phase of the timer value the last time the

rollover data was updated.

41.   Fahmi teaches a network device wherein the rollover data comprises:

a bit R, wherein R is set to indicate that the theoretical arrival time value for the

communication channel is ahead of the timer value in rollover phase (Col. 2, lines 62-67;

Col. 3, lines 1-4; Col. 4, lines 30-41);

a bit B, wherein B is set to indicate that the theoretical arrival time value for the

communication channel is behind the timer value in rollover phase, wherein R and B are

both cleared to indicate that the theoretical arrival time value for the communication

channel and the timer value are in the same rollover phase (Col. 3, lines 11-16; Col. 4,

lines 30-41, lines 61-64); and

a bit V, wherein V indicates the rollover phase of the timer value the last time the

rollover data was updated (Col. 4, lines 30-41, lines 48-53).

42.   It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the teaching of Fahmi and Welin because they both

deal with updating the rollover data according to rollover bit assignments. Furthermore,

the teaching of Fahmi to allow a bit R, wherein R is set to indicate that the theoretical

arrival time value for the communication channel is ahead of the timer value in rollover

phase; a bit B, wherein B is set to indicate that the theoretical arrival time value for the

communication channel is behind the timer value in rollover phase, wherein R and B are

both cleared to indicate that the theoretical arrival time value for the communication

channel and the timer value are in the same rollover phase; and a bit V, wherein V

indicates the rollover phase of the timer value the last time the rollover data was

updated would improve functionality and speed of Welin's system by allowing the

rollover data to allocate specific assignment bits to indicate which phase the rollover

process is in so that it may proceed.

43.   As per claim 12, Welin does not explicitly teach the network device as recited in

claim 11, wherein the one or more policing parameters further comprise a limit value,

wherein for each received incoming data cell, the cell processing unit is configured to

compare the received incoming data cell's arrival time to the one or more policing

parameters by accessing the rollover data and policing parameters for the received

incoming data cell's communication channel, wherein the received incoming data cell is

conforming if:

R is set and the cell's arrival time is greater than or equal to the theoretical arrival

time minus the limit value, taking into account that the theoretical arrival time is ahead of

the cell's arrival time in rollover phase; or

R is not set and B is set; or

R and B are both not set and the cell's arrival time is greater than or equal to the

theoretical arrival time minus the limit value.

44.   Fahmi teaches a network device wherein the incoming data is conforming if:

R is set and the cell's arrival time is greater than or equal to the theoretical arrival

time minus the limit value, taking into account that the theoretical arrival time is ahead of

the cell's arrival time in rollover phase (Col. 3, lines 1-16; Col. 4, lines 12-18); or

R is not set and B is set (Col. 1-4; Col. 4, lines 12-18); or

R and B are both not set and the cell's arrival time is greater than or equal to the
theoretical arrival time minus the limit value (Col. 5-16, Col. 4, lines 12-18, lines 30-38).

45.   It would have been obvious to one of ordinary skill in the art at the time the
invention was made to combine the teaching of Fahmi and Welin because they both
deal with incoming data cell's arrival time and their parameters according to the
theoretical arrival time. Furthermore, the teaching of Fahmi to allow R is set and the
cell's arrival time is greater than or equal to the theoretical arrival time minus the limit
value, taking into account that the theoretical arrival time is ahead of the cell's arrival
time in rollover phase; or R is not set and B is set; or R and B are both not set and the
cell's arrival time is greater than or equal to the theoretical arrival time minus the limit
value would improve the speed and functionality of Welin's system by allowing analysis
of the incoming data's arrival time.

46.   As per claim 13, Welin does not explicitly teach the network device as recited in
claim 12, wherein the received incoming data cell is non-conforming if:

R is set and the cell's arrival time is less than the theoretical arrival time minus
the limit value, taking into account that the theoretical arrival time is ahead of the cell's
arrival time in rollover phase; or

R and B are both not set and the cell's arrival time is less than the theoretical
arrival time minus the limit value.

47.   Fahmi teaches a network device that is non-conforming if:

R is set and the cell's arrival time is less than the theoretical arrival time minus

the limit value, taking into account that the theoretical arrival time is ahead of the cell's

arrival time in rollover phase (Col. 3, lines 1-16; Col. 4, lines 12-18); or

R and B are both not set and the cell's arrival time is less than the theoretical

arrival time minus the limit value (Col. 5-16, Col. 4, lines 12-18, lines 30-38).

48.   It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the teaching of Fahmi and Welin because they both

deal with incoming data cell analysis. Furthermore, the teaching of Fahmi to allow R is

set and the cell's arrival time is less than the theoretical arrival time minus the limit

value, taking into account that the theoretical arrival time is ahead of the cell's arrival

time in rollover phase; or R and B are both not set and the cell's arrival time is less than

the theoretical arrival time minus the limit value would improve speed and functionality

of Welin's system to recognize incoming data cells that are non-conforming through

simple calculations.

49.   As per claim 14, Welin does not explicitly teach the network device as recited in

claim 13, wherein the one or more policing parameters further comprise an increment

value, wherein for each received incoming data cell, said cell processing unit is

configured to increment the theoretical arrival time for the received incoming data cell's

communication channel after determining that the cell is conforming, wherein if the cell

is conforming the theoretical arrival time is set to:

the current theoretical arrival time plus the increment value if R is set or if R is not

set and the cell's arrival time is less than the current theoretical arrival time; or

the cell's arrival time plus the increment value if R is not set and the cell's arrival

time is greater than or equal to the current theoretical arrival time.

50.   Fahmi teaches a network device wherein:

the current theoretical arrival time plus the increment value if R is set or if R is not

set and the cell's arrival time is less than the current theoretical arrival time (Col. 3, lines

1-16; Col. 4, lines 12-18); or

the cell's arrival time plus the increment value if R is not set and the cell's arrival

time is greater than or equal to the current theoretical arrival time (Col. 4, lines 53-58).

51.   It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the teaching of Fahmi and Welin because they both

deal with incrementing the theoretical arrival time when the transmitted cell is

conforming. Furthermore, the teaching of Fahmi to allow the current theoretical arrival

time plus the increment value if R is set or if R is not set and the cell's arrival time is less

than the current theoretical arrival time; or the cell's arrival time plus the increment value

if R is not set and the cell's arrival time is greater than or equal to the current theoretical

arrival time would improve functionality of Welin's system by incrementing and altering

the theoretical arrival time value to adjust to the incoming data as it is received.

52.   As per claim 15, Welin does not explicitly teach the network device as recited in claim 14, wherein said cell processing unit is further configured to update the rollover data if the theoretical arrival time for one of the communication channels is incremented past its maximum value so that it rolls over, wherein B is cleared if B was set when the theoretical arrival time rolled over, and R is set if B was not set when the theoretical arrival time rolled over.

53.   Fahmi teaches a network device, wherein said cell processing unit is further configured to update the rollover data if the theoretical arrival time for one of the communication channels is incremented past its maximum value so that it rolls over, wherein B is cleared if B was set when the theoretical arrival time rolled over, and R is set if B was not set when the theoretical arrival time rolled over (Col. 4, lines 5-9, lines 24-29, lines 59-64).

54.   It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Fahmi and Welin because they both deal with rolling over the theoretical arrival time. Furthermore, the teaching of Fahmi to allow wherein said cell processing unit is further configured to update the rollover data if the theoretical arrival time for one of the communication channels is incremented past its maximum value so that it rolls over, wherein B is cleared if B was set when the theoretical arrival time rolled over, and R is set if B was not set when the theoretical arrival time rolled over would improve functionality of Welin's system when preparing for new incoming data by resetting the theoretical time accordingly.

55.   Claim 18 does not teach or define any new limitations above claim 2 and

therefore are rejected for similar reasons.

56.   Claim 19 does not teach or define any new limitations above claim 3 and

therefore are rejected for similar reasons.

57.   Claim 20 does not teach or define any new limitations above claim 4 and

therefore are rejected for similar reasons.

58.   Claim 21 does not teach or define any new limitations above claim 11 and

therefore are rejected for similar reasons.

59.   As per claim 22, Welin teaches a method as recited in claim 19, storing

operations and maintenance data for each communication channel, wherein the

operations and maintenance data indicates connection availability information, wherein

said performance parameters, said rollover data and said operations and maintenance

data are all stored in a table having an entry for each communication channel

(Paragraphs [0256], [0275], [0318] and [0620];

        performing a scanning function to scan the operations and maintenance data in

the table for the plurality of communication channels at least once per rollover phase of

the timer value (Paragraphs [0262], [0606] and [0630]); and

        wherein said updating the rollover data is performed as part of said scanning

function (Paragraph [0262]).

60.   Claim 23 does not teach or define any new limitations above claim 7 and therefore are rejected for similar reasons.

61.   Claim 24 does not teach or define any new limitations above claim 8 and therefore are rejected for similar reasons.

62.   Claim 25 does not teach or define any new limitations above claim 9 and therefore are rejected for similar reasons.

63.   Claim 26 does not teach or define any new limitations above claims 4 and 10 and therefore are rejected for similar reasons.

64.   Claim 27 does not teach or define any new limitations above claim 11 and therefore are rejected for similar reasons.

65.   Claim 28 does not teach or define any new limitations above claim 12 and therefore are rejected for similar reasons.

66.   Claim 29 does not teach or define any new limitations above claim 13 and therefore are rejected for similar reasons.

67.   Claim 30 does not teach or define any new limitations above claim 14 and therefore are rejected for similar reasons.

68.   Claim 31 does not teach or define any new limitations above claim 15 and therefore are rejected for similar reasons.

69.   Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Welin and Fahmi in further view of 'Official Notice'.

70.   As per claim 5, Welin teaches the network device as recited in claim 4, wherein

the timer rollover phase indicator comprises a global register bit configured to be

toggled each time the timer value rolls over (Paragraph [0417]).

71.   Fahmi teaches a network device comprising:

n-bits encoded to indicate that the theoretical arrival time value for the

communication channel is ahead, behind or in the same rollover phase as the timer

value (Col. 4, lines 12-18); and

another bit configured to indicate the rollover phase of the timer value the last time

the rollover data was updated (Col. 4, lines 45-51).

74.   Welin and Fahmi do not teach the network device wherein for each

communication channel, the rollover data comprises two bits encoded to indicate that

the theoretical arrival time value for the communication channel is ahead, behind or in

the same rollover phase as the timer value; and a third bit configured to indicate the

rollover phase of the timer value the last time the rollover data was updated. However

'Official Notice' is taken by the Examiner that the process of toggling register bits is well

known. It would be obvious to arbitrarily set the number of bits encoded to two in order

to indicate that the theoretical arrival time value for the communication channel is

ahead, behind or in the same rollover phase as the timer value; and an additional bit

configured to indicate the rollover phase of the timer value the last time the rollover data

was updated. This rollover data bit configuration would improve functionality of

accessing the rollover data by utilizing less space in the memory each rollover update.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents and publications are cited to further show the state of the art with respect to "Timer Rollover Handling Mechanism For Traffic Policing".

i.	US 5,818,815	Carpentier et al.
ii.	US 5,649,110	Ben-Nun et al.
iii.	US 6,359,911	Movshovich et al.
iv.	US 6,108,303	Fahmi et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas A. Martin whose telephone number is (571) 272-3970. The examiner can normally be reached on Monday - Friday 8:30 a.m. - 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A. Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3970.

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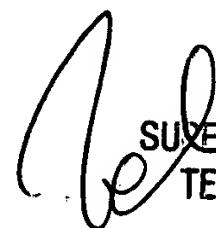
JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100